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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC – AUTONOMOUS)



DEPARTMENT OF MECHANICAL ENGINEERING

VISION

“To be a Centre of Excellence in the field of Mechanical Engineering to generate quality human resource who can contribute constructively to the Technological and Socio-economic Development of the Nation”

MISSION

- M1 To provide Globally competent Mechanical Engineers through Experienced and Committed Faculty.
- M2 To nurture graduates with Scientific temperament, Rational thinking and Humanistic approach for Excelling in their Career.
- M3 To promote Excellence in teaching and research through collaborative activities.

PROGRAM EDUCATIONAL OBJECTIVES

- PEO1 Build a successful career or pursue higher education in Mechanical Engineering and allied fields.
- PEO2 Design, develop, maintain, and improve engineering systems and tools, while working in a team, for sustainable growth of the economy and continuous improvement in quality of human life.
- PEO3 Engage in continuous learning to keep abreast with the latest technological developments in light of constantly changing environmental and social factors.

PROGRAM SPECIFIC OUTCOMES

- PSO1 Apply concepts and principles from Applied Mechanics to design, develop, and evaluate mechanical systems for a specified purpose.
- PSO2 Employ governing laws of Thermodynamics, Fluid flow and Heat Transfer for design and analysis of thermo-fluid systems.
- PSO3 Utilize the knowledge and learning of materials and manufacturing sciences to design, plan and monitor production operations in an Industry.

PROGRAM OUTCOMES

- PO1 **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2 **Problem Analysis:** Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 **Design/ Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO4 **Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO5 **Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- PO6 **The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7 **Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 **Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11 **Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO12 **Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.